

REMARKS

This amendment is submitted in response to the Office Action mailed March 4, 2011. Claims 1, 15, and 22 – 24 are amended. Claims 3, 4, 11, 21 and 23 are canceled. New Claim 25 has been added, incorporating subject matter from original Claim 8. Claims 1, 12- 20, 22, 24 and 25 are currently pending.

Claims 1, 12 – 20, 22 and 24 are amended to more particularly point out and distinctly claim the subject matter applicants regard as the invention. Specifically, claims 1, 15 and 24 are amended to more distinctly claim a plastic or polymer composite article with a polycarbonate (PC) phase and a high density polyethylene (HDPE) matrix phase, wherein the PC phase consists essentially of fiber-shaped nano-domains having a length-wise dimension aligned essentially parallel in the HDPE matrix phase. Support for these amendments is disclosed in the PCT specification at least at page 3, lines 8-18 and Figures 1 and 2. Further, Applicants do not concede to the Examiner’s position, but, in the interest of advancing the prosecution of the present application, claims 1, 15, 22, and 24 are amended to remove reference to ABS and PC/ABS mixtures. Finally, the remaining claims are amended to provide consistency with the amendments to Claims 1, 15 and 24. The amendments to claims 1, 15, 22, and 24 therefore do not introduce new matter. And because the subject matter of new Claim 25 was presented in original Claim 8, this also does not introduce new matter.

For reasons which are submitted below, the claims are believed to be in condition for allowance. The claim amendments re believed to resolve the concerns raised by the Examiner. Accordingly, reconsideration is respectfully requested.

Rejections Under 35 U.S.C. §112

Turning to the Office Action, claims 1, 3, 4, and 11– 24 are rejected under 35 U.S.C. §112 first paragraph, as failing to comply with the written description requirement. Specifically, the Office Action alleges that LeClair discloses a “polycarbonate blend wherein use of the applicants’ proportions result in a modulus which is the same or even substantially less than the additive contribution of the components indicating that applicants have not enabled production of compositions with the claimed characteristic of a modulus greater than the additive contribution of

each polymer.” This rejection is respectfully traversed in view of the above claim amendments for the following reasons.

Applicants have amended claims 1, 15 and 24 to specify that the polycarbonate (PC) phase of the immiscible polymer blend consists essentially of fiber-shaped nano-domains having a length-wise dimension aligned essentially parallel in the HDPE matrix phase are fibers dispersed in a high density polyethylene (HDPE) matrix. Support is found at in at least page 3, lines 8-12 of the PCT specification:

Fig. 1 is a scanning electron microscopy (SEM) photograph illustrating the microstructure of an immiscible polymer blend of the present invention containing 90% PE and 10% PC, wherein the PC Fibers has a high aspect ratio which is desirable for composites.

LeClair’s blend, while disclosing applicants’ proportions of HDPE and PC, do not disclose formation of the blend depicted in Fig. 1. In fact, under the “Conclusion” section of LeClair, the morphology of the blend is described as being “amorphous” PC dispersed in a HPDE matrix.

Further, LeClair indicates that the region of negative deviation in the modulus corresponds to HDPE (dispersed) in PC, as opposed to the claimed invention of PC fiber-shaped nano-domains aligned in parallel in an HDPE matrix. Blends in which HDPE is dispersed in PC display high levels of voiding, which would result in a decrease in modulus. As described by LeClair, “HDPE/PC can be regarded to be mechanically equivalent to PC containing holes.”

The claims are now limited to the composite article with the unique microstructure depicted in Figs. 1 and 2 that results in the unexpected mechanical properties recited in the claims. In other words Claims 1, 15 and 24 are amended so they are now limited to the descriptive support depicted in Figs. 1 and 2 as described in the specification.

By amending Claims 1, 15 and 24 in this manner, this rejection of Claims 1, 3, 4, and 11– 24 under 35 U.S.C. §112 first paragraph, as failing to comply with the written description requirement has thus been overcome. Reconsideration by the Examiner and withdrawal of this rejection is therefore respectfully requested.

Claims 1, 3, 4, and 11– 24 are also rejected under 35 U.S.C. §112 first paragraph, as failing to comply with the written description requirement, “[f]igure 5 shows a small portion of the composition range barely meeting applicants requirements [and] those skilled in the art would not assume that applicants were in possession of the concept of compositions having applicants “additive contribution” characteristic for other melt flow rates besides those associated with the materials of Figure 5.”

Without conceding the correctness of the Examiner’s position, the claims have been amended to remove the PC/ABS blend subject matter of Fig. 5. This rejection is now moot. Accordingly, reconsideration by the Examiner and withdrawal of this rejection is respectfully requested.

Rejections Under 35 U.S.C. §101

Claims 1, 3, 4 and 11 – 24 were also rejected under 35 U.S.C. §101 as being inoperative for encompassing subject matter disclosed by LeClair as not possessing the mechanical properties claimed. This rejection is respectfully traversed in view of the above claim amendments for the following reasons.

As noted previously, the claims are now limited to the composite article with the unique microstructure depicted in Figs. 1 and 2 that results in the unexpected mechanical properties recited in the claims. In other words, Claims 1, 15 and 24 as amended are amended so they are now limited to PC/HDPE composite materials having the recited utility.

By amending Claims 1, 15 and 24 in this manner, this rejection of Claims 1, 3, 4, and 11– 24 under 35 U.S.C. §101 first paragraph for lacking utility has thus been overcome. Reconsideration by the Examiner and withdrawal of this rejection is therefore respectfully requested

Double Patenting Rejections

Finally, Claims 1, 3, 4 and 11 – 24 have been provisionally rejected on the ground of nonstatutory obviousness-type double patenting as allegedly unpatentable over claim 14 of co-pending Patent Application No. 12/295,574. Upon indication of allowable subject matter in this

case, an appropriate terminal disclaimer will be filed depending upon the status at the time of the co-pending application.

In view of the foregoing, Applicants believe that the claims of this application are in condition for allowance and an early notice to this effect is earnestly solicited. If the Examiner does not believe that such action can be taken at this time, or if the Examiner feels that a telephone interview is necessary or desirable, Applicants welcome the Examiner to call the undersigned at 212-878-7900.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 50-1943, under Order No. 070439.00026 from which the undersigned is authorized to draw.

Dated: September 6, 2011

Respectfully submitted,

By /Kenneth Ma 63,839/
Kenneth Ma
Registration No.: 63,839
FOX ROTHSCHILD LLP
100 Park Avenue
Suite 1500
New York, New York 10017
(212) 878-7900
(212) 692-0940 (Fax)
Attorneys/Agents For Applicant